

## ABSTRACT

A mobile communication system is designed with an input circuit coupled to receive a first plurality of signals  $(r_j(i + \tau_j), i=0-N-1)$  during a first time  $(T_0-T_1)$  from an external source and coupled to receive a second plurality of signals  $(r_j(i + \tau_j), i=N-2N-1)$  during a second time  $(T_1-T_2)$  from the external source. The input circuit receives each of the first and second plurality of signals along respective first and second paths (j). The input circuit produces a first input signal  $(R_j^1)$  and a second input signal  $(R_j^2)$  from the respective first and second plurality of signals. A correction circuit is coupled to receive a first estimate signal  $(\alpha_j^1)$ , a second estimate signal  $(\alpha_j^2)$  and the first and second input signals. The correction circuit produces a first symbol estimate  $(\bar{S}_1)$  in response to the first and second estimate signals and the first and second input signals. The correction circuit produces a second symbol estimate  $(\bar{S}_2)$  in response to the first and second estimate signals and the first and second input signals.